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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,183	04/02/2001	David S. Christie	5500-66100	1668.

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EXAMINER	
O BRIEN, BARRY J	
ART UNIT	**PAPER NUMBER**
2183	5

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/825,183	CHRISTIE ET AL.	
	Examiner	Art Unit	
	Barry J. O'Brien	2183	

-- Th MAILING DATE of this communication appears on the cov r sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4/2/01, 7/30/01, 8/3/01, 9/3/02*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3-4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 have been examined.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed on record in the file: Pre-Amendment A as received on 7/30/2001, IDS as received on 8/03/2001, and IDS as received on 9/03/2002.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

4. The applicant is requested to review the specification and update the status of all co-pending applications made mention of, replacing attorney docket numbers with current U.S. application or patent numbers when appropriate.

Claim Objections

5. Claim 7 is objected to because of the following informalities:

   a. Claim 7 recites that it is dependent upon claim 1, which is incorrect and does not provide the correct antecedent basis. Please correct the claim language to read, "The apparatus as recited in claim 6," to provide the correct antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4-6, 9-11, 14-16, 19-21, 24-26 and 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by the Intel 86/88/186/188 User's Manual.

8. Regarding claims 1, 6, 11, 16, 21 and 26, taking claim 1 as exemplary, the Intel 86/88/186/188 User's Manual has taught a processor comprising:

a. A register file including at least a first register and a second register (see p.1-4 to 1-5 and Figs.1-4),

b. An execution core coupled to the register file (see p.1-3 to 1-5 and Figs. 1-3 and 1-4) and coupled to receive an instruction including a register address field having a first encoding (see p.1-41), wherein, dependent on a first field of the instruction, the execution core is configured to select which of a first portion of the first register and a second portion of the second register is used as an operand of the instruction responsive to the first encoding of the register address field (see p.1-41 and 1-42). Here, the "first field of the instruction" is a field of a typical 8086/88 instruction, specifically the REG field (see Fig.1-28). Dependent upon the REG field, when it is equal to 000, the low (first) portion of the register AX is selected to be the source operand, which is AL (see p.1-41, Col.1 line 13 – Col.2 line 6 and

Table 1-19). When the REG field is equal to 111, the high (second) portion of the register BX is selected to be the source operand, which is BH (see p.1-41, Col.1 line 13 – Col.2 line 6 and Table 1-19).

9. Claims 6, 11, 16, 21 and 26 are nearly identical to claim 1, differing in their parent claims, but encompassing the same scope as claim 1. Therefore, claims 6, 11, 16, 21 and 26 are rejected for the same reasons as claim 1.

10. Regarding claims 4, 9, 14, 19, 24 and 29, taking claim 4 as exemplary, the Intel 86/88/186/188 User's Manual has taught the processor as recited in claim 1, wherein the first portion is a first byte and the second portion is a second byte (see above paragraph 5 and Table 1-19 on p.1-42). Here, when the REG field selects AL, it is the first, or low, byte of AX, and when the REG field selects BH, it is the second, or high, byte of BX.

11. Claims 9, 14, 19, 24 and 29 are nearly identical to claim 4, differing in their parent claims, but encompassing the same scope as claim 4. Therefore, claims 9, 14, 19, 24 and 29 are rejected for the same reasons as claim 4.

12. Regarding claims 5, 10, 15, 20, 25 and 30, taking claim 5 as exemplary, the 86/88/186/188 User's Manual has taught the processor as recited in claim 4, wherein the first byte is a least significant byte of the first register and wherein the second byte is a next to least significant byte of the second register (see above paragraphs 5 and 8, and Table 1-19 on p.1-42). Here, when the REG field selects AL, it is the low, or least significant, byte of AX, and when the REG field selects BH, it is the high, or most significant, byte of BX (see p.1-4).

13. Claims 10, 15, 20, 25 and 30 are nearly identical to claim 5, differing in their parent claims, but encompassing the same scope as claim 5. Therefore, claims 10, 15, 20, 25 and 30 are rejected for the same reasons as claim 5.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 2-3, 7-8, 12-13, 17-18, 22-23 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the 86/88/186/188 User's Manual as applied to claim 1 above, and further in view of Chennupaty et al., U.S. Patent No. 6,014,735.

16. Regarding claims 2, 7, 12, 17, 22 and 27, taking claim 2 as exemplary, the 86/88/186/188 User's Manual has taught the processor as recited in claim 1, wherein the execution core is configured to select the first portion of the first register in response to a presence of the field in the instruction, and wherein the execution core is configured to select the second portion of the second register in response to an absence of the field in the instruction (see p.1-41 and 1-42). Here, dependent upon the REG field equaling 000 (the absence of the REG field), the low (first) portion of the register AX is selected to be the source operand, which is AL (see p.1-41, Col.1 line 13 – Col.2 line 6 and Table 1-19). When the REG field is equal to 111 (the presence of the REG field), the high (second) portion of the register BX is selected to be the source operand, which is BH (see p.1-41, Col.1 line 13 – Col.2 line 6 and Table 1-19).

17. The 86/88/186/188 User's Manual has not explicitly taught wherein the first field is a prefix field.

18. However, Chennupaty has taught the use of a prefix byte to extend an existing instruction set to include new and useful functions without increasing hardware complexity (see Chennupaty Col.1 lines 8-63 and Col.2 lines 17-21). One of ordinary skill in the art would have recognized that re-engineering an instruction set is a complex, time-consuming, and costly process, and that a primary goal of microprocessor design is to improve processor performance without increasing the time and cost to do so. One of ordinary skill in the art would have found it obvious to modify the processor of the 86/88/186/188 User's Manual to use a prefix field to contain the first field so that modifications to the existing instruction set don't introduce undue hardware complexity into the processor.

19. Claims 7, 12, 17, 22 and 27 are nearly identical to claim 2, differing in their parent claims, but encompassing the same scope as claim 2. Therefore, claims 7, 12, 17, 22 and 27 are rejected for the same reasons as claim 2.

20. Regarding claims 3, 8, 13, 18, 23 and 28, taking claim 3 as exemplary, the 86/88/186/188 User's Manual in view of Chennupaty has taught the processor as recited in claim 2, wherein the prefix field is a prefix byte (see above paragraph 10 and Chennupaty Col.3 lines 6-11).

21. Claims 8, 13, 18, 23 and 28 are nearly identical to claim 3, differing in their parent claims, but encompassing the same scope as claim 3. Therefore, claims 8, 13, 18, 23 and 28 are rejected for the same reasons as claim 3.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made. Applicant must also show how the amendments avoid such references and objections. See 37 CFR § 1.111(c).

23. Gruner et al., U.S. Patent No. 6,496,923, has taught a method for decoding one-byte prefixes to instructions.

24. Dutton et al., U.S. Patent No. 5,680,578, has taught a microprocessor using an instruction prefix field to expand the functionality of an existing instruction set.

25. Myers, U.S. Patent No. 5,903,919, has taught a method of specifying a register address field in an instruction allowing the instruction to choose between two registers.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry J. O'Brien whose telephone number is (703) 305-5864. The examiner can normally be reached on Mon.-Fri. 7:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (703) 305-9712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

27. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Barry J. O'Brien
Examiner
Art Unit 2183

BJO
3/8/2004

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